



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Tools and methods of quality management in production engineering

### Course

Field of study

Production Engineering and Management

Area of study (specialization)

Computerization of production

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

1/2

Profile of study

general academic

Course offered in

Polish

Requirements

elective

### Number of hours

Lecture

15

Tutorials

Laboratory classes

Projects/seminars

15

Other (e.g. online)

### Number of credit points

2

### Lecturers

Responsible for the course/lecturer:

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Faculty of Mechanical Engineering

Piotrowo Street, No 3 60-965 Poznań

Responsible for the course/lecturer:

### Prerequisites

The student has knowledge of the basics of management and quality (and safety) management; ability to select and use management methods and techniques in practice; awareness of the role and importance of quality categories in the functioning of manufacturing enterprises.



### Course objective

Gaining by students the knowledge and skills in the selection and application of quantitative and qualitative quality tools for the purposes of problem solving and improving the processes of manufacturing enterprises.

### Course-related learning outcomes

#### Knowledge

Student distinguishes between quality management instruments.

The student knows the classification divisions of quality management instruments.

The student knows the spectrum of basic quality tools used to solve quality problems and increase the ability of processes to meet the requirements.

#### Skills

The student is able to choose quality tools adequate to the problem.

The student is able to interpret and use in practice information obtained as a result of using basic quality tools.

The student is able to combine individual tools into methodical sequences.

The student is able to use computer support in the use of quality tools (office software, dedicated software packages).

#### Social competences

The student is aware of the role and importance of the quality category in engineering activities.

The student actively participates in pro-quality activities.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Credit in the case of a correct answer for min. 3 questions: <3 ndst, 3 dst, 3.5 dst +, 4 db, 4.5 db +, 5 very good), conducted at the end of the semester. The condition of obtaining credit for the course is also to obtain a positive grade in project classes.

### Programme content

#### Lecture:

Course terminology. The components of quality management instruments. Classifications of quality management instruments. Representatives in the group of principles, approaches, methodologies, methods and tools. Tools and quality techniques. Traditional, new and additional quality tools. Tools for description and modeling of production enterprise processes. Process analysis tools. Process improvement tools.

#### Project:



Implementation of the project using selected quality tools, aimed at solving the selected problem or improving the production process.

### Teaching methods

lecture; project

### Bibliography

Basic

Starzyńska B., Hamrol A., Grabowska M., Poradnik menedżera jakości. Kompendium wiedzy o narzędziach jakości, Wydawnictwo Politechniki Poznańskiej, Poznań 2010

Additional

Hamrol A., Zarządzanie jakością z przykładami, PWN, Warszawa 2008

### Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2
Classes requiring direct contact with the teacher	30	1
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	20	1

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<sup>1</sup> delete or add other activities as appropriate

